DOCUMENT RESUME

ED 185 329 CE 024 789

TITLE Energy: ECCMC Special Bibliography in Vocational & Career Education.
INSTITUTION Illinois State Board of Education, Springfield. East Central Curriculum Management Center.
PUB DATE Apr 80
NOTE 21p.: For a related document see ED 167 779.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Annotated Bibliographies: *Career Education: Citations (References): Elementary Secondary Education: *Energy Conservation: Environmental Education: Natural Resources: Postsecondary Education: *Solar Radiation: *Vocational Education

ABSTRACT

This annotated bibliography lists materials in the field of energy that would be of use to vocational and career educators. Materials included in the guide focus on areas such as solar energy, energy and agriculture, natural energy sources, and energy and the environment. All materials listed are available on a thirty-day loan from East Central Curriculum Management Center. (LRA)

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ECCMC Special Bibliography in Vocational & Career Education

ENERGY

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NATIONAL INSTITUTE OF EDUCATION

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ED 185329

As part of a continuing effort to make available materials housed within the ECCMC, special bibliographies such as this one are published periodically in addition to the regular ECCMC abstracted bibliographies by general vocational content areas. This annotated special bibliography lists materials in the field of energy. The listing is not meant to be exhaustive of the field but representative of those materials available on free loan from the ECCMC.

To obtain a 30-day loan copy write, call, or visit the East Central Curriculum Management Center, Department of Adult, Vocational & Technical Education, Illinois State Board of Education, 100 North First Street, Springfield, IL 62777 (217/782-0759). For a listing of future special bibliographies and the East Central Region State Liaison Representatives see last page.

Activities of the Department of Energy in Energy Education. J. C. Kellett. U.S. Department of Energy, Office of Education, Business, and Labor Affairs, Washington, DC 20545. 1978. 66pp. Available on loan from the ECCMC. 531.6 KELL 1978-1

This report provides information on training, curriculum materials, events, and facilities support in energy education programs.

The Advent of Solar Energy: Implications for Vocational Education in Illinois. Sherry Ann Rubinstein and James G. Ramsey. National Evaluation Systems, Inc., P.O. Box 226, Amherst, MA 01002. 1977. 78pp. Available on loan from the ECCMC. 614.7 RUBI 1977-1

This report describes the types and number of jobs that may be created or influenced by development of the solar energy industry and determines the potential effect on vocational training needs.

Agriculture, Energy, and Society, Grades 10, 11, 12. John M. Fowler, King C. Kryger, and Helen H. Carey, U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1976. 109pp. Available on loan from the ECCMC. 531.6 FOWL 1978-2

This instructional unit focuses on the energy component of food production.

Alternative Natural Energy Sources in Building Design. Albert J. Davis and Robert P. Schubert. Van Nostrand Reinhold Company, a division of Litton Educational Publishing, Inc. 450 West 33rd Street, New York, NY 10001. 1977. 252pp. $6.95. Available on loan from the ECCMC. 531.6 DAVI 1977-1

This book describes alternative solutions and applications for each problem, and over 200 diagrams, tables, and formulas are supplied. Summarizes relation of energy to the built environment, regional and site adaption, energy conservation, natural cooling and ventilation, water power, wind power, solar energy, organic fuels and integrated systems.

Analysis of the Economic Potential of Solar Thermal Energy to Provide Industrial Process Heat. Final Report. Volume 1. Inter Technology Corporation, Warrenton, VA. National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. 1977. 68pp. Available on loan from the ECCMC. 621.47 INTE 1977-1 Vol. 1

This quantitative assessment of the potential of solar thermal energy systems to provide industrial process heat indicates that solar has maximum potential to provide 0.6 quadrillion Btu per year in 1985, and 7.3 quadrillion Btu per year in 2000 in economic competition with the projected costs of conventional fossil fuels — for applications having a maximum required temperature of 550°F.

Application Engineering Manual. Solaron Corporation, 300 Galleria Tower, 720 South Colorado Blvd., Denver, CO 80222. 1978. Available on loan from the ECCMC. 621.47 SOLA 1978-1
This manual describes the Solaron solar heating system, provides performance data for the components and the complete system, and describes the ducting and mechanical requirements for a Solaron solar heating system.

Application of Solar Heated Water to Greenhouses. R. F. Lucas and C. D. Baird. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. 1976. 30pp. Available on loan from the ECCMC. 631.34 LUCA 1976-1
This bulletin explains how a solar heated water system works and how to figure your greenhouse heating needs and your equipment needs.

Application of Solar Technology to Today's Energy Needs — Volume II. Office of Technology Assessment, Washington, D.C. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1978. 756 pp. Stock No. 052-003-00608-1. Available on loan from the ECCMC. 621.47 OFFI 1978-1 Vol. 2
The previous volume of this report presented the results of an analysis of a large number of solar energy systems designed to meet the energy requirements of homes, apartment buildings, shopping centers, industries, and small communities. This volume provides detailed information about the assumptions made in these calculations and the techniques employed.

Applications of Solar Energy for Heating and Cooling of Buildings. Richard C. Jordan and Benjamin Y. H. Liu, Editors. American Society of Heating, Regrigerating and Air-Conditioning Engineers, Inc., 345 East 47th Street, New York, NY 10017. 1977. 206pp. $8.00. Available on loan from the ECCMC. 621.47 JORD 1977-1
This publication is designed to further the rapid development of solar energy utilization in the heating and cooling of buildings.

Architecture and Energy. Richard G. Stein. Anchor Press/Doubleday and Co., Inc., 501 Franklin Avenue, Garden City, NY 11530. 1978. 322pp. $6.95. Available on loan from the ECCMC. 531.6 STEI 1978-1
This book proposes how and why architects should design simultaneously in a more conservative and productive way.

Architecture: Design, Engineering, Drawing. William P. Spence. McKnight Publishing Company, 808 Eldorado Road, Bloomington, IL 61701. 1979. 581pp. List price — $17.16. School price — $12.87. Available on loan from the ECCMC. 720 SPEN 1979-1
This text includes information on residential and small commercial building planning and design, electrical and mechanical systems, and structural considerations. It presents basic concepts of solar heating and cooling.

At Home in the Sun; an open-house tour of solar homes in the United States. Norah Deakin Davis and Linda Lindsey. Garden Way Publishing, Charlotte, VT 05445. 1979. 236pp. $9.95. Available on loan from the ECCMC. 621.47 DAVI 1979-1
This book discusses 31 solar homes and the families who live in them. The families tell what they like about their houses and what they would change; the decisions that have paid off and the errors they've made.

An Attached Solar Greenhouse Project. Solar Engineering Magazine, 8435 North Stemmons Freeway, Suite 880, Dallas, TX 75247. 1978. 19 slides, cassette, and script, $30.00. Available on loan from the ECCMC. SL 631.34 SOLA 1978-1
This slide presentation details the construction of an attached solar greenhouse and was prepared by Bill Yanda, Executive Director, Solar Sustenance Project, Santa Fe, New Mexico.

Award Winning Energy Education Activities for Elementary and High School Teachers. U.S. Energy Research and Development Administration, P.O. Box 62, Oak Ridge, TN 37830. 1978. 38pp. Available on loan from the ECCMC. 531.6 UNIT 1978-1
This report provides brief descriptions of 10 winning entries from a teacher's contest for the design of student activities on energy themes.

Better Thermal Utilization. Proceedings of the Second Annual Conference and Exhibition of the New England Solar Energy Association, September 8-11, 1977, Hilton Hotel and Hartford Civic Center, Hartford, CT. Elizabeth Shaw, Editor. New England Solar Energy Association, P.O. Box 541, Brattleboro, VT 05301. 1977. 557pp. Available on loan from the ECCMC. 621.47 SHAW 1977-1
These extended abstracts provide a significant review of a variety of conservation and solar technologies.

A Bibliography of Materials for Environment Education. Roger H. Lambert, Geraldine Strey, and Carla Kronebach. Wisconsin Vocational Studies Center, University of Wisconsin-Madison, 321 Old Education Building, Madison, WI 53706. 1978. 37pp. $3.00. Available on loan from the ECCMC. R 016.6147 LAMB 1978-1
This bibliography includes materials on environmental education, ecology, natural resources, energy, land use, pollution, solid wastes, and population.

Build a Solar Model for the Classroom Warm-Air System. Sherry Perry and Johnne Smalley. Energy Education Project, Center for Vocational, Technical, and Adult Education, University of Wisconsin, Menomonie, WI 54751. 1978. 71pp. Available on loan from the ECCMC. 621.47 PERR 1978-1
This kit is designed as a solar primer. It covers the basic principles of solar heating and provides the information necessary to build a warm air solar heating system.

Building and Using Our Sun-Heated Greenhouse; grow vegetables all year-round. Helen and Scott Nearing. Garden Way Publishing, Charlotte, VT 05445. 1977. 148pp. $6.95. Available on loan from the ECCMC. 631.34 NEAR 1977-1
This book discusses the advantages of a sun-heated greenhouse. It explains how to build this greenhouse; how to operate it; and which vegetables, and what varieties grow best in this greenhouse.

California Solar Data Manual. Paul Berdahl, et al. California Energy Commission, 1111 Howe Avenue, Sacramento, CA 95825. 1978. 318pp. $20.00. Available on loan from the ECCMC. 621.47 BERD 1978-1
This manual provides the basic solar data needed to design residential or commercial heating systems, solar heated swimming pools, and solar air conditioning systems. It contains the most reliable solar data presently available in the State of California.

Chemical Energy — Science Activities in Energy. The American Museum of Atomic Energy, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37830. 1977. 15pp. Available on loan from the ECCMC. 372.891 AMER 1977-1
This series of experiments was developed especially to aid fourth, fifth, and sixth graders in understanding chemical energy. It can be just as useful in community programs.

Citizens' Solar Program; state reports on barriers and strategies to renewable energy development. Jim Broyles, et al., Editors. Solar Action, Inc., 1028 Connecticut Avenue, N.W., Suite 1100, Washington, DC 20036. 1978. 471pp. Available on loan from the ECCMC. 621.47 BROY 1978-1
For each state, this report includes information concerning solar potential, critique of report on solar potential, and barriers and strategies for solar implementation.

Citizen's Workshops on Energy and the Environment Handbook. U.S. Department of Energy, Office of Public Affairs, Washington, DC 20585. 1977. 32 pp. Available on loan from the ECCMC. 531.6 DEPA 1977-1
This handbook provides citizens with the information they need to make decisions in the area of energy use and conservation.

The Commercialization of Solar Energy in the Midwest. Stephen K. Parker. Washington University, St. Louis, MO 63130. 1978. 185pp. Available on loan from the ECCMC. 621.47 PARK 1978-1
This thesis identifies solar equipment manufacturers in the Mid-American Solar Energy Center (MASEC) region and collects information required to characterize the solar equipment manufacturing industry.

Community Workers and the Energy They Use, Grade 2. National Science Teachers Association. U.S. Energy Research and Development Administration, Washington, DC 20545. 1976 61pp. Available on loan from the ECCMC. 372.891 NATI 1976-1

This material stimulates the child's curiosity to know more and to grasp relationships through a blending of ideas about energy with a study of the effects of the use of energy on the livelihood of people in the community.

A Compendium of Hands-On Solar Workshop Experiences — The Solar Greenhouse Outreach Program; final report. Bill and Susan Yanda. U.S. Department of Agriculture, Rural Development Services, Route 1 — Box 107AA, Santa Fe, NM 87601. 1978. 32pp. Available on loan from the ECCMC. 631.34 YAND 1978-1

This final report describes an outreach program designed to expand the solar greenhouse concept through the format of "hands-on" workshops. Five greenhouse sites were at Hyannis, MA, Charlotteville, VA, Murray, KY, Durham, NC, and Little Rock, AR.

The Complete Greenhouse Book; building and using greenhouses from coldframes to solar structures. Peter Clegg and Derry Watkins. Garden Way Publishing, Charlotte, VT 05445. 1978. 280pp. $9.95. Available on loan from the ECCMC. 631.34 CLEG 1978-1

This book covers all aspects of growing plants indoors and provides plenty of details about solar architecture.

Conference on Performance Monitoring Techniques for Evaluation of Solar Heating and Cooling Systems. R. F. Boehm Organizer. U.S. Department of Energy, Washington, DC. 1978. 351pp. Available on loan from the ECCMC. 621.47 BOEH 1978-1

This conference was designed to determine the status of techniques, instrumentation and data analysis for reporting of the performance of solar energy systems for building climate control.

The Consumer Use of Energy. Beth Christiansen. Kansas Curriculum Materials Dissemination Center, Pittsburg State University, Pittsburg, KS 66762. 1978. Available on loan from the ECCMC. 531.6 CHRI 1978-1

This publication discusses energy resources, fossil fuels, natural gas, coal, transportation, fireplaces, insulation, weatherizing structures, structural cooling systems, space heating, energy, and solar energy.

The Control of Solar Energy Systems for Heating and Cooling. Proceedings of the First Workshop, May 23-25, 1978, Sheraton Regal Inn, Hyannis, MA. E. F. Clark and F. de Winter, Editors. Publishing Office of the American Section of the International Solar Energy Society, Inc., McDowell Hall, University of Delaware, Newark, DE 19711. 1978. 245pp. Available on loan from the ECCMC. 621.47 CLAR 1978-2

At this first U.S. Government-sponsored workshop on the control of solar energy systems for heating and cooling, more than 40 presentations were made on different aspects of ongoing work.

Decision Making in Solar Technology. Proceedings of the First Annual Conference and Exhibition of the New England Solar Energy Association, June 24-27, 1976, University of Massachusetts, Amherst, MA. Elizabeth F. Shaw, Editor. New England Solar Energy Association, P.O. Box 541, Brattleboro, VT 05301. 1976. 577pp. Available on loan from the ECCMC. 621.47 SHAW 1976-1

These proceedings contain extended abstracts of papers and speeches presented during the First Annual NESEA Conference. The papers reflect a growing awareness of the potential role that solar energy is beginning to play as a resource for all people in meeting present and future energy needs.

Design, Construction, and Testing of a Fixed Mirror Solar Concentrator Field. John R. Schuster, John L. Russell, Jr., and George. Eggers. General Atomic Company, P.O. Box 81608, San Diego, CA 92138. 1978. Available on loan from the ECCMC. 621.47 SCHU 1978-1

This publication discusses the advantages that would be realized in various applications of the Fixed Mirror Solar Concentrator. These potential advantages make the FMSC attractive for those applications requiring medium to high temperature (450K to 800K), including solar total energy systems, central station electric power, and process heat applications.

Design with Climate; bioclimatic approach to architectural regionalism. Victor Olgyay. Princeton University Press, 41 William Street, Princeton, NJ 08540. 1963. 190pp. $30.00. Available on loan from the ECCMC. 720b OLGY 1963-1.
Using the findings from other sciences and applying them to four distinct climate regions — temperate, cool, hot-arid, hot-humid. Victor Olgyay shows how we can arrive at new interpretations and exactness in architectural theories of orientation, shading, building form, air movements, site location, and effects of materials.

Development and Implementation of Training Curriculum/Program in Solar Heating and Cooling at the Technician Level. Final Report. C. Walter Troutman, Project Director. Southern Region Nuclear and Energy Training Center of Texas State Technical Institute, Waco, TX 76705. 1977. 214pp. Available on loan from the ECCMC. 621.47 TROU 1977-1
Final report of project to develop curricula to support the training of a work force engaged in the installation, maintenance and repair of domestic and commercial solar energy heating and cooling systems.

Development of an Energy Technician Option within the Electro-Mechanical-Technology Program offered at Allegany Community College, Cumberland, MD, Final Report. Allegany Community College, Cumberland, MD. 1979. 249pp. Available on loan from the ECCMC. 531.6 ALLE 1979-1
This final report includes 2 catalogs of performance objectives for courses in thermodynamics for technicians and refrigeration, heating ventilation and air conditioning systems.

A Development Report for Energy Technician Option in Mechanical Engineering Technology. James F. Hassinger and Dr. Michael H. Parsons. Hagerstown Junior College, 751 Robinwood Drive, Hagerstown, MD 21740. 1979. Available on loan from the ECCMC. 531.6 HASS 1979-1
This report discusses the status of a project to develop an energy technician option for the mechanical engineering technology program at Hagerstown Junior College.

Direct Use of the Sun's Energy. Farrington Daniels. Yale University Press, 302 Temple St., New Haven, CT 06520. 1964. 374pp. $17.50. Available on loan from the ECCMC. 621.47 DANI 1964-1
This book covers all aspects of converting the sun's rays into mechancial and electrical power. It describes the full range of experimental work involving collectors of solar radiation, cooking, heating, agricultural and industrial drying, storage of heat, solar furnaces and engines, cooling and refrigeration, photochemical conversion, and many other uses.

Do-It-Yourself Solar Heating: a practical guide to assist in the selection, installation and operation of solar heating systems. Bob Altieri, Mel Carter, and Fred Nadel. Advanced Energy Technology, Inc., Los Gatos Business Park, 121 Albright Way, Los Gatos, CA 95030. 1978. 28pp. $3.95. Available on loan from the ECCMC. 621.47 ALTI 1978-1
This manual has been designed to assist the consumer in selecting the right solar componenets, teach proper installation techniques, and in general, to help the do-it-yourself enthusiast have fun with solar.

The Double E. Percival Goodman. Anchor Press/Doubleday and Co., Inc., 501 Franklin Avenue, Garden City, NY 11530. 1977. 304pp. $3.50. Available on loan from the ECCMC. 711 GOOD 1977-1
This book discusses how communities of the future must be architecturally designed for ecology and economy. It shows how through the use of technologies both old and new, what we build today can ensure a higher quality of life for tomorrow.

Earth Integrated Architecture; an alternative method for creative livable environments with an emphasis on arid regions. James W. Scalise. College of Architecture, Arizona State University, Tempe, AZ 85281. 1975. $10.00. Available on loan from the ECCMC. 720 SCAL 1975-1
Concentrating on various fundamentals of energy conservation and natural environmental preservation, this publication considers an alternative form of architecture that would provide a more logical integration between the natural and the built environment.

Electric Energy. W. Harold Parady. American Association for Vocational Instructional Materials, 120 Engineering Center, Athens, GA 30602. 1976. 48pp. Available on loan from the ECCMC. 631.38 PARA 1976-1
This publication is designed to give people a better understanding of electric energy: how it is used, how it works, where it comes from, and how it is transported.

Electric Utility Solar Energy Activities 1977 Survey. Electric Power Research Institute, 3412 Hillview Avenue, Palo Alto, CA 94304. 1978. 124pp. Available on loan from the ECCMC. 621.47 CLEA 1978-1
This report presents the results of a survey to determine the scope of solar energy projects sponsored by electric utilities in the United States. It contains brief descriptions of 458 projects being conducted by 150 utility companies.

Electrical Energy — Science Activities in Energy. The American Museum of Atomic Energy, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37830. 1977. 16pp. Available on loan from the ECCMC. 372.891 AMER 1977-2
This series of experiments focuses on how electricity is made, how it is used, and how it is measured.

Energy and Economic Growth. American Petroleum Institute, 1271 Avenue of the Americas, New York, NY 10020. 1970. 6 charts, teacher's guide and 30 classroom study manuals. Available on loan from the ECCMC. PO 330 AMER 1970-2
These 22" x 34" color charts include: factors contributing to economic growth, economic growth and how it is measured, energy use and economic growth, energy use and economic income, the changing picture of energy use, and future growth and energy need.

Energy and Energy-Related Curriculum and Resource Materials: A Bibliography. Lawrence Zane. Western Curriculum Coordination Center, University of Hawaii, College of Education, Wist Hall 216, 1776 University Avenue, Honolulu, HI 96822. 1978. 14pp. Available on loan from the ECCMC. R 016.5316 ZANE 1978-1
This bibliography includes materials on agriculture, air pollution, conservation, natural resources, forestry, electricity, electronics, nuclear, water, and wastewater technology; fuel; geothermal energy; solar energy; thermodynamics; and wind energy.

Energy and the Community. Raymond J. Burby, III and A. Fleming Bell, Editors. Ballinger Publishing Company, Harvard Square, 17 Dunster Street, Cambridge, MA 02138. 1978. 140pp. $17.50. Available on loan from the ECCMC. 531.6 BURB 1978-1
This book presents the results of a colloquium, "Energy and Patterns of Human Settlement," convened by the Center for Urban Studies of the University of North Carolina. Participants discussed the best ways to adapt to changes in energy supplies and prices.

Energy and Transportation, Grade 3. National Science Teachers Association. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1977. 89pp. Available on loan from the ECCMC. 372.891 NATI 1977-1
This instructional unit helps students develop a conscious appreciation of the variety of transportation modes, and assists them in understanding some of the ways that modern transportation systems affect their world.

Energy and Transportation: Industry and Careers. John J. Geil and B. Stephen Johnson. Prentice-Hall, Inc., 301 Sylvan Avenue, Englewood Cliffs, NJ 07632. 1976. 120pp. $3.96. Available on loan from the ECCMC. 614.7 GEIL 1976-1
This publication presents the energy industries of electrical, mechanical, and other kinds of power and transportation which moves goods and people.

The Energy Challenge. Federal Energy Administration, Room 3134, Washington, DC 20461. 1976. 24 transparency masters and booklet. Available on loan from the ECCMC. TR 372.891 FEDE 1976-1
These transparencies were developed for students in grades 5 through 8. This is a comprehensive program about our energy past, the concerns of our present energy situation, and the hopes for our energy future.

Energy Conservation for the Illinois Home; instructor's manual. Small Homes Council — Building Research Council and the College of Education, University of Illinois at Urbana-Champaign, Urbana, IL 61801. 1978. Available on loan from the ECCMC. 643 SMAL 1978-1

This publication is designed to assist the instructor who is teaching a course in residential energy management by looking at various types of energy and energy conservation techniques.

Energy Conservation in Construction Trades. The National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210. 1978. Available on loan from the ECCMC. 621.47 NATI 1978-1

This package includes the module "Understanding Solar Energy Systems", a mini list, and bibliographies.

Energy Conservation in Heating, Cooling, and Ventilating Buildings; heat and mass transfer techniques and alternatives. C. J. Hoogendoorn and N. H. Afgan. Hemisphere Publishing Corporation, 1025 Vermont Avenue, N.W., Suite 1000, Washington, DC 20005. 1978. 2 volumes. $79.50. Available on loan from the ECCMC. 697 HOOG 1978-1 Vol. 1 & 2.

Lectures and papers presented at a seminar sponsored by the International Centre for Heat and Mass Transfer, held at Dubrovnik, Yugoslavia, August 29 — September 2, 1977. The papers discuss the many factors that the energy requirements of buildings involve. These range from human comfort conditions and economic aspects to heat and moisture transfer in building materials, ventilation of buildings, mathematical modelling, and new techniques like heat pumps and solar energy.

Energy Conservation in the Home: An Energy Education/Conservation Curriculum Guide for Home Economics Teachers. Lil Clinard. U.S. Department of Energy, Technical Information Center, P.O. Box 62, Oak Ridge, TN 37830. 1977. 319pp. Available on loan from the ECCMC. 643 CLIN 1977-1

This guide is designed for home economics teachers to serve as a source of information, instructional materials and suggested references about the energy situation as a whole, energy concepts, and the use of energy in the home.

Energy Conservation Workshop, Curriculum. Dennis Gaul and Mike Kynell. Illinois State Board of Education, 100 North First Street, Springfield, IL 62777. 1978. Available on loan from the ECCMC. 531.6 GAUL 1978-1

This curriculum contains activities for energy education from primary through secondary levels.

Energy, Engines, and the Industrial Revolution, Grades 8, 9. National Science Teachers Association. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1976. 80pp. Available on loan from the ECCMC. 373.236891 NATI 1976-1

This instructional unit shows some of the broad social and economic changes that took place during the Industrial Revolution and combines these general understandings with specific details about the development of the steam engine.

Energy-Environment Source Book; Vol. 1 — Energy, Society, and the Environment and Vol. 2 — Energy, Its Extraction, Conversion, and Use. John M. Fowler. National Science Teachers Association, 1742 Connecticut Avenue, N.W., Washington, DC 20009. 1975. 304pp. $4.00. Available on loan from the ECCMC. R 371.40212 FOWL 1975-1

Volume 1 deals with the economic/political/societal issues in the energy "debate." Volume 2 provides the scientific and technical background that is needed for a thorough understanding of the issues in Volume 1.

Energy Films Interim Catalog. U.S. Department of Energy, P.O. Box 62, Oak Ridge, TN 37830. 1978. 35pp. Available on loan from the ECCMC. R 016.5316 UNIT 1978-2

This catalog contains an annotated bibliography of 92 films related to energy which are available for free loan from USDOE.

Energy in the Global Marketplace, Grades 9, 10, 11. John M. Fowler, King C. Kryger, and Helen H. Carey. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1978. 58pp. Available on loan from the ECCMC. 531.6 FOWL 1978-1

This instructional unit examines the effects of energy supply and demand on prices, and competition among nations as demand outstrips supply.

Energy Primer; solar, water, wind, and biofuels. Richard Merrill and Thomas Gage, Editors. Dell Publishing Co., Inc., 1 Dag Hammarskjold Plaza, New York, NY 10017. 1978. 256pp. $7.95. Available on loan from the ECCMC. 531.6 MERR 1978-1

This book includes articles on energy conservation, solar, solar architecture, water, wind, biofuels, and integrated systems.

The Energy Producing House. Tom Smith. 1979. 63pp. Available on loan from the ECCMC. 621.47 SMIT 1979-1

This book discusses a passive solar house which is located in the High Sierras of California and which was finished and occupied in February 1978. It is designed to optimize: direct gain of solar heat energy, convective movement of air, thermal mass for storage of excess energy, ventilation, and protection of the structure from severe climatic conditions.

Energy Sources and Careers, Solar Electric and **Energy Sources and Careers, Solar Thermal.** Megatech Corporation, Billerica, MA 01866. 1976. 2 volumes. Available on loan from the ECCMC. 621.47 MEGA 1976-1 Vol. 1 and 2

These 2 volumes each discuss the source, the conversion system environmental aspects, careers, and references for solar electric and solar thermal.

The Energy We Use, Grade 1. National Science Teachers Association. U.S. Energy Research and Development Administration, Washington, DC 20545. 1976. 24pp. Available on loan from the ECCMC. 372.891 NATI 1976-2

Through this publication, children discover that energy is one of the links between themselves and everything else.

Engineer's Guide to Solar Energy. Yvonne Howell and Justin A. Bereny. Solar Energy Information Services, P.O. Box 204, San Mateo, CA 94401. 1979. 323pp. $24.50. Available on loan from the ECCMC. 621.47. HOWE 1979-1

This guide provides both basic and advanced information for understanding and applying solar heating and cooling technology.

Establishment of an Energy Conservation Management Program in Illinois Schools. Steven L. Tuma and J. Ernest Dunwoody. Department of Business and Economic Development, Illinois Division of Energy, 222 South College Street, Springfield, IL 62706. 1977. 56pp. Available on loan from the ECCMC. 531.6 TUMA 1977-1

This energy conservation manual was written to help local and district school administrators in justifying, organizing, and implementing an effective energy management program.

F-Chart Weather and Radiation Tables. Available on loan from the ECCMC. 551.63 FCHA 1979-1

This book provides monthly data for horizontal radiation, average temperature, degree-days, and average daily radiation on tilted surfaces for 168 cities in the U.S. and Canada.

The Food and Heat Producing Solar Greenhouse: Design, Construction, Operation. Rick Fisher and Bill Yanda. Bookpeople, 2940 Seventh Street, Berkeley, CA 94710. 1976. 161pp. $6.50. Available on loan from the ECCMC. 631.34 FISH 1976-1

This book shows methods which can be used to make an appreciable addition to the quality of your life through a closer involvement with your food chain; fresher and cheaper vegetables; a free source of partial heating for your house; a more realistic integration with the cycles of the sun, the seasons, the weather, and the world; and independence from corporate energy and food games.

From the Ground Up. John N. Cole and Charles Wing. Atlantic Monthly Press, Little, Brown and Company, 34 Beacon Street, Boston, MA 02114. 1976. 244pp. $7.95. Available on loan from the ECCMC. 531.6 COLE 1976-1

This book is designed to provide you with what you need to know to plan, design, site and build your own post-industrial home. A post-industrial house is designed to use renewable resources whenever possible in its construction; it is designed not to consume but to conserve — your time, your money, your paint, your comfort.

Fundamentals of Solar Heating. Sheet Metal and Air Conditioning Contract National Association. U.S. Department of Energy, Assistant Secretary for Conservation, and Solar Applications, Washington, DC 20545. 1978. Correspondence course and study guide. Available from National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springifeld, VA 22161. Course — Microfiche — $3.00, Printed Copy — $9.00; Guide — Microfiche — $3.00. Available on loan from the ECCMC. 621.47 SHEE 1978-2
This training course provides the on-the-job, air-conditioning industry employee with the opportunity to learn about solar technology through supervised correspondence instruction.

Fundamentals of Solar Heating; correspondence course. Sheet Metal and Air Conditioning Contractors National Association. National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. 1978. Available on loan from the ECCMC. 621.47 SHEE 1978-1
This training course is designed to provide the on-the-job air-conditioning industry employee with the opportunity to learn about solar technology through supervised correspondence instruction.

Graphic Standards of Solar Energy. Spruille Braden, III. CBI Publishing Company, Inc., 51 Sleeper Street, Boston, MA 02210. 1977. 212pp. $19.95. Available on loan from the ECCMC. 621.47 BRAD 1977
This book melds energy-conscious design with mechanical systems for commercial, institutional, and residential buildings. Designed as a companion for all phases of solar energy design, the book is divided into three sections: climatic factors, energy conservation and production, and solar energy systems.

Handbook of Energy Lesson Plans — College Level. The Solar-Ed Corporation, Solar Energy Curriculum Materials, 1627 Litchfield Turnpike, P.O. Drawer X, Woodbridge, CT 06525. 1977. Available on loan from the ECCMC. 531.6 SOLA 1977-2
This booklet includes 8 experiments. Some are: Newton's Law of Cooling, properties of thermal fluids, and a graphical technique of energy averaging.

Handbook of Energy Lesson Plans — High School Level. The Solar-Ed Corporation, Solar Energy Curriculum Materials, 1627 Litchfield Turnpike, P.O. Drawer X, Woodbridge, CT 06525. 1977. Available on loan from the ECCMC. 531.6 SOLA 1977-1
This booklet includes 12 experiments. Some are: convection of heat from a hot object, theory of photovoltaic effect, and simple air heated solar collector.

Heating and Air Conditioning Systems Installation Standards for One and Two Family Dwellings and Multifamily Housing including Solar. Sheet Metal and Air Conditioning Contractors' National Association, Inc., 8224 Old Courthouse Road, Tyson's Corner, Vienna, VA 22180. 1977. Available on loan from the ECCMC. 697 SHEE 1977-1
This publication provides an installation standard for winter and/or summer air conditioning systems and related systems incorporating the latest accepted practices, including solar, and is based upon recognized research data compiled by numerous agencies concerned with the science of air conditioning.

Home Energy How-To. A. J. Hand. Harper and Row, Publishers, 10 East 53rd Street, New York, NY 10022. 1977. 258pp. $9.95. Available on loan from the ECCMC. 643 HAND 1977-1
This publication deals with ways to conserve energy and ways to harness the energies of sun, wind, water, biofuels, and wood.

Homeowner's Guide to Saving Energy. Billy L. Price and James T. Price. TAB Books, P.O. Box 40, Blue Ridge Summit, PA 17214. 1976. 288pp. $5.95. Available on loan from the ECCMC. 643 PRIC 1976-1
This guide provides practical tips on how to save up to 60% on heating/cooling/utility bills.

How a Bill Becomes a Law to Conserve Energy, Grades 9, 11, 12. National Science Teachers Association, U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1976. 115pp. Available on loan from the ECCMC. 531.6 NATI 1976-1
Using the controversial 55 mph speed limit, these instructional materials integrate facts and concepts of energy-environment-economics into the study of the process of making and applying a law.

Illinois Appropriate Technology Project Book. Jill Kunka. Institute of National Resources, Alternative Energy Division, 222 South College, Springfield, IL 62706. 1978. Available on loan from the ECCMC. 531.6 KUNK 1978-1
This Project Book provides a basic tool for finding information, locating knowledgeable expertise, and identifying possible funding sources which could lead to applications of appropriate technology which may vary greatly in project type and comparative scale.

Illinois Solar Energy Directory. B. D. Green and D. Z. Pogany. Illinois Institute of Natural Resources, 325 West Adams Street, Room 300, Springfield, IL 62706. 1978. 114pp. Available on loan from the ECCMC. R 371.40925 GREE 1978-1
This directory contains a listing of Illinois and nationwide solar energy equipment manufacturers, distributors, installers and consultants. Discussions of consumer protection and solar law in Illinois are included.

The Implementation of State Solar Incentives: A Preliminary Assessment. John Ashworth, et. al. National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. 1979. 225pp. Microfiche, $3.00; Printed Copy, $9.50. Available on loan from the ECCMC. 621.47 ASHW 1979-1
This report examines the implementation experience in selected case study states for four major types of solar energy programs: financial incentives; state-funded research, development, and demonstration; testing and certification; and land-use planning for solar access.

In the Bank...or up the Chimney?; a dollars and cents guide to energy-saving home improvements, 2nd ed. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1977. 73pp. Available on loan from the ECCMC. 643 OFFI 1977-1
This guide includes energy-saving techniques applicable to all types of housing.

Introduction to Energy. Fred Posthuma and Merle Stephey. Wisconsin Vocational Studies Center, 964 Educational Sciences Building, 1025 West Johnson Street, University of Wisconsin-Madison, Madison, WI 53706. 1978. 22 transparency masters and booklet. $6.50. Available on loan from the ECCMC. TR 531.6 POST 1978-1
A nine lesson introduction to energy with 22 coordinated activity masters, behavioral objectives, glossary, and an annotated bibliography.

Introductory Hydraulics Activity Manual. Dr. J. R. Daines. Technical Systems, Inc. 2256 Terminal Road, St. Paul, MN 55113. 1971. Available on loan from the ECCMC. 621.2 DAIN 1971-1
This manual includes introductory experiments designed to illustrate the fundamental principles of hydraulic circuits, pressure and force, power, pumps, fluid transmission, values, actuators, and fluid storage and conditioning.

The Iowa Industrial Arts Handbook for Introductory Level Energy and Power. Dr. Rex Pershing and Dr. Willis Norton. State of Iowa, Department of Public Instruction, Grimes State Office Building, Des Moines, IA 50319. 1978. Available on loan from the ECCMC. 373.2365 PERS 1978-1
This handbook includes 30 individualized Learning Activity Packets (LAPS) developed for use in an introductory energy and power class at the junior high school level.

John Barling's Solar Fun Book 18 Projects for the Weekend Builder. John Barling. Brick House Publishing Company, 3 Main Street, Andover, MA 01810. 1979. 95pp. $7.95. Available on loan from the ECCMC. 621.47 BARL 1979-1
John Barling shows how to build a solar-powered hot dog cooker and 17 other solar "home appliances" using inexpensive recycled and new materials. He includes both practical and demonstration projects such as: solar oven, giant experimental reflector, hot-water heater, chicken cooker, and swimming pool heater.

Low-Cost, Energy-Efficient Shelter for the Owner and Builder. Eugene Eccli. Rodale Press, Inc., 33 East Minor Street, Emmaus, PA 18049. 1976. 408pp. $5.95. Available on loan from the ECCMC. 643 ECCL 1976-1
This self-teaching book brings together the information and design principles needed in order to build sensibly, incorporating energy conservation measures, while maintaining an affordable price.

Mathematics in Energy; grades 8-9. National Science Teachers Association. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1977. 70pp. Available on loan from the ECCMC. 373.236891 NATI 1977-1
This instructional unit develops some basic mathematical skills which enable the students to solve problems which in turn cause them to be more cognizant of their energy dependency in their environment.

Methods of Testing Thermal Storage Devices Based on Thermal Performance. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 345 East 47th Street, New York, NY 10017. 1977. 22pp. $3.00 to members, $6.00 to nonmembers. Available on loan from the ECCMC. 621.47 AMER 1977-1
This Standard (94-77) provides a standard procedure for determining the thermal performance of thermal energy storage devices used in heating, air conditioning, and service hot water systems.

Methods of Testing to Determine the Thermal Performance of Solar Collectors. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 345 East 47th Street, New York, NY 10017. 1978. 50pp. $4.00 to members, $8.00 to nonmembers. Available on loan from the ECCMC 621.47 AMER 1978-1
This Standard (93-77) formulates a test procedure whereby solar energy collectors can be tested both indoors and outdoors, to rate the collectors in accordance with their thermal performance and to determine their time constant and the variation of their efficiency with changes in the angle of incidence between the sun's direct rays and the normal to the collector aperture.

Mickey Mouse and Goofy Explore Energy. Walt Disney Educational Media Company, 500 South Buena Vista Street, Burbank, CA 91521. 1976. Available on loan from the ECCMC. 372.891 WALT 1976-1
This is a comic book in which Mickey Mouse and Goofy explore forms of energy: water, wind, fusion, coal, nuclear, oil, natural gas, solar, and geothermal.

National Solar Energy Education Directory. George Corcoleotes, et. al. Solar Energy Research Institute, 1536 Cole Boulevard, Golden, CO 80401. 1979. 279pp. Available from National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. Microfiche $3.00. Printed Copy — $11.00. Available on loan from the ECCMC. R 371.4025 CORC 1979-1
This directory lists alphabetically by institution type within state, post-secondary educational institutions offering solar-related courses, programs and curricula.

Natural Solar Architecture; a passive primer. David Wright. Van Nostrand Reinhold Company, a divison of Litton Educational Publishing, Inc., 135 West 50th Street, New York, NY 10020. 1978. 245pp. $7.95. Available on loan from the ECCMC. 621.47 WRIG 1978-1
This guidebook is designed for anyone who wants to know more about the passive approach to solar architecture. Diagrams and explanations of all the important facets provide a solid foundation on which to plan.

Natural Thermal Storage: An Overview of Performance Expectations and Design Techniques Using the M_e Factor. Charles J. Michal and Daniel C. Lewis. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1979. 7pp. Available on loan from the ECCMC. 621.47 MICH 1979-1
The thermal storage capacity found in conventional building construction affects heating and cooling requirements and the long-term efficiency of the space conditioning equipment. This natural thermal storage (NTS) can be increased through architectural design to improve building performance and decrease the consumption of conventional fuels. TEA has carried out a research project on this subject for the Brookhaven National Labs. This paper gives an overview of the project team's findings.

New and Retrofitted Facilities for Energy Conservation. Carol P. Kowle. National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210. 1979. 13pp. Available on loan from the ECCMC. 531.6 KOWL 1979-1
This paper discusses recent legislation, energy management in the schools and innovative means of conserving energy.

New Inventions in Low Cost Solar Heating; 100 daring schemes tried and untried. William A. Shurcliff. Brick House Publishing Co., Church Hill, Harrisville, NH 03450. 1979. 293pp. $12.00. Available on loan from the ECCMC. 621.47 SHUR 1979-1

Dr. Shurcliff surveys radical new inventions by others and describes many daring new schemes of his own. Discusses passive system, ingenious combinations of passive and active, and active systems that are simple and cheap. There are new ideas on storage system domestic-hot-water systems, and greenhouses.

Passive Solar Energy. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1978. 58 slides, cassette, and script. Available on loan from the ECCMC. SL 621.47 TOTA 1978-1

This slide show presents the basic elements of passive solar energy and shows how it is incorporated into a building.

The Passive Solar Energy Book; expanded professional edition. Edward Mazria. Rodale Press, Inc., 33 East Minor Street, Emmaus, PA 18049. 1979. 687pp. $19.95. Available on loan from the ECCMC. 621.47 MAZR 1979-1

This book contains most of the information you will need to successfully design a passive solar building. Its contents are ordered in sequence from general solar theory and applications to system design and performance calculations.

Passive Solar State of the Art. Proceedings of the Second National Passive Solar Conference, March 16-18, 1978, University of Pennsylvania, Philadelphia, PA. Don Prowler, Editor. Mid-Atlantic Solar Energy Association, 2233 Gray's Ferry Avenue, Philadelphia, PA 19146. 1978. 3 volumes. $20.00. Available on loan from the ECCMC. 621.47 PROW 1978-1 Vol. 1-3

These proceedings include vol. 1 — buildings, vol. 2 — components, simulation, and testing, and vol. 3 — policy, education, and economics.

Policies and Manpower Needs Related to Emerging Energy Sources in Arizona and New Mexico. Everett Edington, Laurie Keaton, and Yousif Neberay. New Mexico State University, Las Cruces, NM 88001. 1977. 109pp. Available on loan from the ECCMC. 531.6 EDIN 1977-1

This report identifies what skills would be needed for employment in the emerging energy sources — coal gasification, geothermal, nuclear, solar, waste products, and wind.

The Possibilities: Commercial Industrial Applications of Solar Energy. Solar Engineering Magazine, 8435 North Stemmons Freeway, Suite 880, Dallas, TX 75247. 1978. 40 slides, cassette, and script. $40.00. Available on loan from the ECCMC. SL 621.47 SOLA 1978-1

This slide program shows some of the projects that are now operating in commercial buildings and multiple dwellings.

Power and Energy Systems Technology Program. Harvey Haakenson, Project Director. Research Coordinating Unit, State Board for Vocational Education, 900 East Boulevard, Bismarck, ND 58505. 1977. Available on loan from the ECCMC. 621.4 HAAK 1977-1

This report describes the project which developed a training program and materials for power plant training for the post-secondary level.

Principles of Solar Engineering. Frank Kreith and Jan F. Kreider. McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020. 1978. 778pp. $24.50. Available on loan from the ECCMC. 621.47 KREI 1978-1

This book provides a teaching framework for the design and analysis of successful energy conversion systems. It is a guide to the technical analysis of solar energy applications and a reference to the thermal applications of solar energy and their economic evaluation.

A Procedure for Evaluating the Performance of Passive Buildings Based on Programmable Calculator Simulations. Joseph T. Kohler, et. al. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1978. 12pp. Available on loan from the ECCMC. 621.47 KOHL 1978-2

The methodology for formulating design day weather and insolation sequences is presented. A typical passive building is then simulated using Teanet, a 7-node thermal network program for TI-59 programmable calculators. The results are analyzed and discussed.

Proceedings of the Conference on Energy-Conserving, Solar-Heated Greenhouses. Marlboro College, November 19-20, 1977. John Hayes and Drew Gillett, Editors. Marlboro College, Marlboro, VT 05344. 1977. 282pp. $9.00. Available on loan from the ECCMC. 631.34 HAYE 1977-1
This conference proceedings describes many interesting experiments using solar greenhouses and presents provocative results.

Project EFFECT; energy for the future: education, conservation, training. Project EFFECT, Indiana University at South Bend, 1700 Mishawaka Avenue, South Bend, IN 46615. 1979. 10pp. Available on loan from the ECCMC. 531.6 RYAN 1979-1
Project EFFECT is a three-year experimental program in curriculum development focusing on energy conservation technology and training.

Project EFFECT; energy for the future: education, conservation, training. Year I — Annual Report — FY 1978. Project EFFECT, Indiana University at South Bend, 1700 Mishawaka Avenue, South Bend, IN 46615. 1978. 42pp plus appendices. Available on loan from the ECCMC. 531.6 RYAN 1978-2
This annual report records the accomplishments and highlights of a year long experiment in curriculum development in the area of energy conservation technology and training.

Project EFFECT — Curriculum Guide for the Training of Energy Extension Agents — A Working Paper — Section 1, 2, 3 and 4. Project EFFECT, Indiana University at South Bend, 1700 Mishawaka Avenue, South Bend, IN 46615. 1979. Four sections. Available on loan from the ECCMC. 531.6 RYAN 1979-2 Section 1-4
This curriculum is designed so that the energy extension agent will be able to develop the technical and communication skills necessary to conduct an energy use survey and to explain the results of the survey to the general public. The four sections include: general background, technical training, energy audit preparation, and community education.

Project EFFECT — Curriculum Guide for the Training of Energy Extension Agents — A Working Paper — Volume 1 and 2. Project EFFECT, Indiana University at South Bend, 1700 Mishawaka Avenue, South Bend, IN 46615. 1978. Vol. 1 — 113pp., Vol. 2 — 225pp. Available on loan from the ECCMC. 531.6 RYAN 1978-1 Vol. 1 and 2.
Volume 1 is a guide to the modules in the core curriculum whose sections include: general background, technical training, energy audit preparation, and community education. Volume 2 includes supplementary materials.

Residential Solar Application. Lennox Educational Products, 1600 East Linn, Marshalltown, IA 50158. 1978. 30pp. Available on loan from the ECCMC. 621.47 LENN 1978-1
This 250 to 280 hour curriculum concentrates on the new technology for solar energy systems and features training aids developed by Lennox Education Products.

Retrofitting a Residence for Solar Heating and Cooling: The Design and Construction of the System. James E. Hill and Thomas E. Richtmyer. Center for Building Technology, Institute for Applied Technology, National Bureau of Standards, Washington, DC 20234 1975. 94pp. Available on loan from the ECCMC. 621.47 HILL 1975-1
This report deals with the design and construction of the retrofitted system for a four-bedroom house to which a solar heating and cooling system was added.

Revere Sun-Pride System Installation Manual. Revere Solar and Architectural Products, Inc., P.O. Box 151, Rome, NY 13440. 1978. 31pp. Available on loan from the ECCMC. 621.47 LENN 1978-1
This manual describes the Revere Sun-Pride domestic hot water system which is a pre-engineered system which will permit efficient and economical operation.

Selected Department of Energy Publications. U.S. Department of Energy, P.O. Box 62, Oak Ridge, TN 37830. 1978. 20pp. Available on loan from the ECCMC. R 016.5316 UNIT 1978-1
This listing includes general interest and educational publications which deal with different forms of energy, their uses, and conservation measures.

Sharing the Sun; solar technology in the seventies. K. W. Boer, Editor. Joint Conference — American Section, International Solar Energy Society and Solar Energy Society of Canada, Inc., August 15-20, 1976, Winnipeg. The American Section of the International Solar Energy Society, 300 State Road 401, Cape Canaveral, FL 32920. 1976. 10 volumes. Available on loan from the ECCMC. 621.47 BOER 1976-1 Vol. 1-10

This ten volume set of papers presented at the Sharing the Sun joint conference includes: 1) International and U.S. Programs, Solar Flux; 2) Solar Collectors; 3) Solar Heating and Cooling of Buildings; 4) Solar Systems, Simulation, Design; 5) Solar Thermal and Ocean Thermal; 6) Photovoltaics and Materials; 7) Agriculture, Biomass, Wind, New Developments; 8) Storage, Water Heater, Data Communication, Education; 9) Socio-Economics and Cultural; and 10) Business, Commercial, Poster Session, Miscellaneous. Each volume can be checked out separately.

Simulation of Direct Gain Buildings with Active Rockbeds on a TI-59 Programmable Calculator Using Teanet. Joseph T. Kohler, Paul W. Sullivan, and Charles J. Michal. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1979. 7pp. Available on loan from the ECCMC. 621.47 KOHL 1979-1

Teanet, a seven-node thermal network program for simulating the performance of passive systems on a TI-59 calculator is shown to be useful for simulating direct gain buildings with active rockbeds. The paper describes how to set up a "thermal network" for this class of forced convection problems and illustrates the method with an example problem.

Simulation of Vented and Non-Vented Mass Storage Walls Using Teanet. Joseph T. Kohler and Paul W. Sullivan. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1978. 9pp. Available on loan from the ECCMC. 621.47 KOHL 1978-1

A generalized 7-node thermal network is developed, and determination of values for capacitances and conductances is discussed in detail. Simulation results for vented and non-vented mass walls are presented and discussed. It is shown that the assumption of constant thermo-circulation is reasonable.

The Solar Age Resource Book. Martin McPhillips, Editor. Everest House, Publishers, 1133 Avenue of the Americas, New York, NY 10036. 1979. 242pp. $9.95. Available on loan from the ECCMC. 621.47 MACP 1979-1

This guide presents numerous ways in which solar energy can be captured, stored, and used. It includes articles, buyer's guides and listings.

Solar Architecture. Gregory E. Franta and Kenneth R. Olson. Ann Arbor Science Publishers, Inc., 230 Collingwood, P.O. Box 1425, Ann Arbor, MI 48106. 1978. 331pp. $15.00. Available on loan from the ECCMC. 621.47 FRAN 1978-1

This publication discusses the techniques, methods, and materials used in energy-conscious design and construction concepts — techniques that should deliver the best results at the lowest cost.

Solar Cells. Charles E. Backus, Editor. The Institute of Electrical and Electronics Engineers, Inc., 345 East 47 Street, New York, NY 10017. 1976. 504pp. $24.95. Available on loan from the ECCMC. 621.47 BACK 1976-1

This reference book contains 42 classic papers in the field of solar cells or photovoltaic energy converters.

Solar Concepts. Jonathan W. Gorham. Alan Lishness, Energy Department Director, Maine Audubon Society. 118 U.S. Route One, Falmouth, ME 04105. 1979. A background text, 129pp. and teacher notes, 135pp. Available on loan from the ECCMC. 621.47 GORH 1979-1

This curriculum presents a collection of teaching methodologies which can be used to illustrate key solar concepts.

Solar Control and Shading Devices. Aladar Olgyay and Victor Olgyay. Princeton University Press, 41 William Street, Princeton, NJ 08540. 1957. 201pp. $8.95. Available on loan from the ECCMC. 621.47 OLGY 1957-1

The first sections of this book discuss the role of shading devices as architectural elements, the technical considerations in the design of solar protection, and the practical applications of shading methods. The last part contains over one hundred examples of solar-control in existing buildings, illustrated and evaluated.

The Solar Decision Book; your guide to making a sound investment. Richard H. Montgomery with Jim Budnick. John Wiley and Sons, 605 Third Avenue, New York, NY 10016. 1978. $12.95. Available on loan from the ECCMC. 621.47 MONT 1978-1

This book presents a logical and practical approach to good solar system design. It discusses studying your energy needs and costs, conserving energy, solar energy systems as sound investments, negotiating an intelligent loan, planning the system, siting the collector, selecting efficient heat exchangers, determining the system size, pricing the job, and installing the system.

Solar Designing. James Lambeth, 1591 Clark Street, Fayetteville, AR 72701. 1977. 116pp. $11.95. Available on loan from the ECCMC. 621.47 LAMB 1977-1

This book provides insight into the process of solar designing through a discussion of systems, forms and lenses.

Solar Dwelling Design Concepts. AIA Research Corporation, Washington, DC. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1976. 146pp. Stock No. 023-000-00334-1. Available on loan from the ECCMC. 621.47 AIA 1976-1

This publication provides historical background information, a concise report on existing solar dwellings and systems, a list of design considerations, and numerous dwelling and site design concepts.

Solar-Ed. The Cooper Solar-Ed Company, 1627 Litchfield Turnpike, Woodbridge, CT 06525. 1977. 6 sets of slides. $129.95. Available on loan from the ECCMC. SL 621.47 COOP 1977-1

The following is a listing to the titles and descriptions for each set. Solar Energy Availability — $23.95 — illustrates the availability of solar energy and seasonal variations. Flat Plate Solar Collectors — $49.95 — functional principles of flat plate solar collectors, including transmission of energy by glazing, absorption of energy, thermal fluids, and heat transfer concepts. Energy Storage — $20.95 — develops the intermittent nature and necessity for thermal storage. Concentrating Solar Collectors — $23.95 — functional princples of optics that are used in the development of high temperature concentrating solar collectors. Measurement and Control Systems — $20.95 — describes measurement techniques and devices used in measuring solar insulation and temperature. Buildings and Passive Systems — $23.95 — concepts of passive solar collection.

Solar Energy and Greenhouse Heating. C. D. Baird and W. E. Waters. American Society for Horticultural Science, Mount Vernon, VA 22121. 1978. 16pp. Available on loan from the ECCMC. 631.34 BAIR 1978-1

This paper was presented at the Symposium on Energy: Alternate Sources and Conservation in Greenhouses, held at the 75th annual meeting of the American Society for Horticultural Science, Boston, MA, July 17, 1978. It is intended to aid the producer in assessing the potential for solar greenhouse heating by giving a brief introduction to solar energy utilization and by reviewing some of the progress made in the development of solar heating systems for greenhouses.

Solar Energy Calculators; with programmable hand-held calculators — especially with TI59 from Texas Instruments. Dr. -Ing. Roderich W. Graeff. SOLARCON, 607 Church, Ann Arbor, MI 48104. 1979. 267pp. $25.00. Available on loan from the ECCMC. 621.47 GRAE 1979-1

This book demonstrates what types of solar energy calculation can be successfully accomplished with the help of programmable calculators and commercially available software.

Solar Energy Commercialization and the Labor Market. B. Mason, G. Ferris, and B. Burns. National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. 1978. 14pp. Microfiche, $3.00; Printed Copy, $4.50. Available on loan from the ECCMC. 621.47 MASO 1978-1

This paper discusses the potential impacts of solar energy commercialization on labor demand, and conversely, the potential impacts of the labor supply system on solar energy commercialization.

Solar Energy Education Bibliography. Beth Wagner. Center for Renewable Resources, 1028 Connecticut Avenue, NW, Washington, DC 20036. 1978. 38pp. Available on loan from the ECCMC. R 016.62147 WAGN 1978-1

This is a comprehensive, annotated bibliography of solar publications and audio-visual materials for pre-school through college.

Solar Energy Employment Information from Case Studies; an employment study. Larry M. Blair, William D. Burnett, and Bert Mason. National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. 621.47 BLAI 1978-1

This project used case studies to analyze job requirements and determine whether economies of scale have altered labor requirements.

Solar Energy Equipment Technician Training Project. Ocean County Vocational-Technical Schools, 350 Chambersbridge Road, Bricktown, NJ 08723. 1979. Available on loan from the ECCMC. 621.47 OCEA 1979-1

At this special training session, session participants met from 7:00-10:00, May 14, 15, and 16, 1979, at the Ocean County Vocational-Technical School, Route 571, Jackson, for classroom instruction. Hands-on instruction took place at the Toms River School on May 17 and 18, 1979 from 8:00-3:30. At the Toms River School participants installed 30 solar collectors on a recently constructed maintenance building.

Solar Energy Experiments; for high school and college students. Thomas W. Norton, Donald C. Hunter, and Roger J. Cheng. Rodale Press, Inc., 33 East Minor Street, Emmaus, PA 18049. 1977. 129pp. $5.95. Available on loan from the ECCMC. 621.47 NORT 1977-1

This is a multipurpose manual comprising eighteen experiments and eight classroom-type activities. The eighteen experiments are of varying difficulty and cover the important aspects of solar energy utilization. The eight classroom-type activities present worldwide energy data and solar energy data for individual student analysis.

Solar Energy: Fundamentals in Building Design. Bruce Anderson. McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020. 1977. 374pp. $23.75. Available on loan from the ECCMC. 621.47 ANDE 1977-1

In easy-to-understand language, this book covers good building design, passive uses of solar energy, complex solar HVA systems, and solar water heating.

Solar Energy Project, Teacher's Guide. U.S. Department of Energy, Market Development and Training Program. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1979. Stock Number 061-000-00234-1. $2.20. Available on loan from the ECCMC. 621.47 MARK 1979-1

This project contains numerous activities on the topic of solar energy for grades 7-12. The activities are designed for infusion into existing curricula. A teacher's guide, bibliography, and other learning aids are included.

Solar Energy — Science Activities in Energy. The American Museum of Atomic Energy, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37830. 1977. 12pp. Available on loan from the ECCMC. 372.891 AMER 1977-3

This series of simple, concrete experiments was developed especially for fourth, fifth, and sixth graders, but can be just as useful in community programs.

Solar Energy Task Force Report on Education and Training. September 12-13, 1978, Denver, CO. J. Kevin O'Connor, Chairperson. Solar Energy Research Institute, 1536 Cole Boulevard, Golden, CO 80401. 1979. 49pp. Available on loan from the ECCMC. 621.47 OCON 1979-1

This Task Force Report provides a set of program suggestions, especially oriented toward programs of current commercial technology in solar energy, specifically water and space heating.

Solar Energy Thermal Processes. John A. Duffie and William A. Beckman. Wiley-Interscience, a division of John Wiley and Sons, 605 Third Avenue, New York, NY 10016. 1974. 386pp. $21.95. Available on loan from the ECCMC. 621.47 DUFF 1974-1

This book provides a detailed summary of the literature on solar applications. It discusses the origin, nature, and availability of solar radiation; reviews radiation heat transfer and the properties of various materials; deals with components and then process and system models, flat plate and focusing collectors, and energy storage components; and discusses concrete applications.

The Solar Greenhouse Book. James C. McCullagh. Rodale Press Inc., 33 East Minor Street, Emmaus, PA, 18049. 18049. 1978. 328pp. $10.95. Available on loan from the ECCMC. 631.34 MACC 1978-1

This book deals with design, construction, and crop production in a variety of solar greenhouses. It provides detailed technical and design information and presents numerous case studies of the construction and management of freestanding, attached, and pit greenhouses and solar cold frames.

Solar Greenhouse Project Manual. R. A. Prindiville, et. al. University of Wisconsin-Milwaukee, Architecture and Urban Planning. 1975. 14pp. Available on loan from the ECCMC. 631.34 PRIN 1975-1
This manual shows how to put a greenhouse together including: design criteria, construction details, operating instructions, testing, economics, and pitfalls.

Solar Greenhouse Slide Series. Solar Sustenance Team, Route 1, Box 107AA, Santa Fe, NM 87501. 1978. 7 sets of 20 slides and 7 cassettes. $90.00. Available on loan from the ECCMC. SL 631.34 SOLA 1978-2
This slide set illustrates many types of greenhouses and discusses many facts to be considered in greenhouse design.

Solar Heating and Cooling: Engineering, Practical Design, and Economics. Jan F. Kreider and Frank Kreith, McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020. 1975. 342pp. $25.95. Available on loan from the ECCMC. 621.47 KREI 1977-1
This is a practical book on how to design solar energy systems for heating and air conditioning buildings. It focuses attention on: introductory information on solar and conventional energy use concepts and requirements, fundamental principles of heat transfer and the nature of solar radiation, practical and efficient methods of collecing solar energy, and detailed quantitative descriptions of the practical systems for heating and cooling by means of solar energy.

Solar Heating and Cooling of Buildings (SHACOB): Requirements Definition and Impact Analysis. The Aerospace Corporation. Electric Power Research Institute, 3412 Hillview Avenue, Palo Alto, CA 94304. 1978. 89pp. Available on loan from the ECCMC. 621.47 AERO 1978-1
This study assesses the economic impact of various SHACOB design concepts on the electric utilities and their customers and defines system requirements for optimizing this impact.

Solar Heating and Cooling of Residential Buildings: Design of Systems. Solar Energy Applications Laboratory, Colorado State University. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1977. Stock No. 003-011-00084-4. Available on loan from the ECCMC. 621.47 SOLA 1977-1
This training course is designed to develop the capability of practitioners in the home building industry to design solar heating and cooling systems for residential buildings.

Solar Heating and Cooling of Residential Buildings: Sizing, Installation, and Operation of Systems. Solar Energy Applications Laboratory, Colorado State University. Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. 1977. Stock No. 003-011-00085-2. Available on loan from the ECCMC. 621.47 SOLA 1977-2
This training course is designed to develop the capability of practitioners in the home building industry to size, install and operate solar heating and cooling systems for residential buildings.

Solar Heating Design; by the f-chart method. William A. Beckman, Sanford A. Klein, and John A. Duffie. John Wiley and Sons, 605 Third Avenue, New York, NY 10016. 1977. 200pp. $14.95. Available on loan from the ECCMC. 621.47 BECK 1977-1
This book describes a practical method for sizing solar space and water heating systems, i.e., systems which collect solar energy, store the energy, and distribute it as needed to heat a building and to heat water for domestic use.

Solar Heating of Buildings. Dr. Richard L. Field. Solpub Co., Box 9209, College Station, TX 77840. 1977. 16 slides and cassette. Available on loan from the ECCMC. SL 621.47 FIEL 1977-1
This slide set demonstrates how a person can design a solar heating system for his/her own home.

Solar Heating Systems Design Manual. International Telephone and Telegraph Corporation, Fluid Handling Division, Training and Education Department, 8200 North Austin Avenue, Morton Grove, IL 60053. 1977. $3.00. Available on loan from the ECCMC. 621.47 INTE 1977-1
This manual shares findings and practical results of on-going research at Bell and Gossett ITT's operating hydronic solar heating/cooling system.

The Solar Home Book; heating, cooling and designing with the sun. Bruce Anderson with Michael Riordan. Brick House Publishing Co., Harrisville, NH 03450. 1976. 297pp. $8.50. Available on loan from the ECCMC. 621.47 ANDE 1976-1

This book discusses the fundamentals of solar energy, solar heating and cooling systems for the average home, flat-plate collectors, heat storage methods, and integrated solar designs.

Solar Job Related Training. Lennox Industries Inc., Education Department, P.O. Box 400450, Dallas, TX 75240. 1979. Available on loan from the ECCMC. 621.47 LENN 1979-1

This book contains comprehensive instruction in design, installation and service procedures for typical solar space heat and domestic hot water systems.

Solar Law; present and future, with proposed forms. Sandy F. Kraemer. Shepard's, Inc., P.O. Box 1235, Colorado Springs, CO 80901. 1978. 364pp. Available on loan from the ECCMC. 621.47 KRAE 1978-1

This book combines law and technology in new ways to accelerate the use of sun power.

Solar Room. Doug Taff. Garden Way Publishing, Charlotte, VT 05445. 1976. Available on loan from the ECCMC. 621.47. TAFF 1976-1

This booklet discusses a solar room which is designed so efficiently that it will actually heat a portion of any house to which it's attached. This room can be anything you wish, such as, solarium, greenhouse, family room, or breakfast nook.

Solar Slide Set. Comeworks Corporation, P.O. Box 712, Albuquerue, NM 87103. 1978. 24 slides and script. $12.00. Available on loan from the ECCMC. SL 621.47 SOME 1978-1

This slide set discusses beadwall, drumwall, skylids, water heaters, air loop rock storage systems, and nightwall.

Solar Use Now — A Resource for People; extended abstracts. International Solar Energy Society. William H. Klein, Vice President, International Solar Energy Society, c/o The Smithsonian Radiation Biology Laboratory, 12441 Parklawn Drive, Rockville, MD 20852. 1975. 540pp. Available on loan from the ECCMC. 621.47 INTE 1975-1

The objective of this meeting was to provide a world forum for active consideration of the uses of solar energy.

The Status of State Energy Education Policy. Education Commission of the States, Suite 300, 1860 Lincoln Street, Denver, CO 80295. 1979. 45pp. $4.00. Available on loan from the ECCMC. 531.6 EDUC 1979-1

This report determines the status of state policies and practices regarding energy education among state education agencies, state offices of energy, governors' offices and state legislatures.

Sun/Earth. Richard L. Crowther. Charles Scribner's Sons, 597 Fifth Avenue, New York, NY 10017. 1977. 232pp. $8.95. Available on loan from the ECCMc. 621.47 CROW 1977-1

This book provides a survey of architecture and its relation to the natural environment. Suggests many ways in which natural forces may be used to produce comfortable living conditions in otherwise uncomfortable situations, thus conserving irreplaceable stores of fossil fuels.

The Sun: Our Future Energy Source. David K. McDaniels. John Wiley and Sons, 605 Third Avenue, New York, NY 10016. 1979. 271pp. Available on loan from the ECCMC. 621.47 MACD 1979-1

The principle aim of this text is to help the reader gain an understanding of the ways in which useful energy can be obtained from the incoming solar radiation. It covers topics such as solar radiation, flat-plate collectors, active and passive solar heating systems, solar thermal electric generating schemes, and photovoltaic devices.

Survey of the Applications of Solar Thermal Energy Systems to Industrial Process Heat. Final Report. Volume I. Summary. Battelle Columbus Laboratories, Columbus, OH. National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. 1977. 67pp. Available on loan from the ECCMC. 621.47 BATT 1977-1. Vol. 1

This volume contains a summary of the methodology and results of this project. The major objectives of this study were to: identify and characterize industrial process heat requirements, identify state-of-the-art applications of solar thermal energy systems, analyze the expected performance of conceptual solar thermal energy systems, identify needed R & D, and perform preliminary assessments of related non-technical issues.

Teanet: A Numerical Thermal Network Algorithm for Simulating the Performance of Passive Systems on a TI-59 Programmable Calculator. Joseph T. Kohler and Paul W. Sullivan. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1978. 9pp. Available on loan from the ECCMC. 621.47 KOHL 1978-3

Teanet, a seven node thermal network program for simulating the performance of passive systems on a TI-59 Programmable Calculator with a PC-100A Printer, is described.

Technician's and Experimenter's Guide to Using Sun, Wind, and Water Power. Richard E. Pierson. Parker Publishing Co., Inc., West Nyack, NY 10994. 1978. 270pp. $10.95. Available on loan from the ECCMC. 531.6 PIER 1978-1

This guide was written to help combat the soaring cost of electricity by providing how-to information and instructions for experiementers, technicians and all those interested in generating electricity by using free energy sources.

Training Courses for Practitioners to Design, Install and Operate Solar Heating and Cooling Systems for Residential Buildings. S. Karaki, D. S. Ward, and C. B. Winn. Solar Energy Applications Laboratory, Colorado State University, Fort Collins, CO 80523. 1976. 14pp. Available on loan from the ECCMC. 621.47 KARA 1976-1

This paper discusses two practical courses which have been developed at Colorado State University for the purpose of training practitioners in the building industry to design and install solar heating and cooling systems in residential buildings.

Transportation and the City, Grades 8,9. National Science Teachers Association. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1977. 46pp. Available on loan from the ECCMC. 531.6 NATI 1977-1

This instructional unit relates the decline of the small town and the rise of urban areas and pollution to the automobile. It also discusses possible solutions to energy consumption problems.

Understanding Solar Energy Systems. Laurie Keaton and Everett Edington. Wisconsin Vocational Studies Center, University of Wisconsin-Madison, 321 Education Building, Box 49, Madison, WI 53706. 1978. 127pp. Available on loan from the ECCMC. 621.47 KEAT 1978-1

This instructional package provides a basic understanding of both pre-service and in-service installation of solar energy systems.

Understanding Solar Energy Systems. Laurie Keaton, Everett Edington, and Merle Stephey. Wisconsin Vocational Studies Center, 964 Educational Sciences Building, 1025 West Johnson Street, University of Wisconsin-Madison, Madison, WI 53706. 1978. 23 transparency masters and booklet. $7.00. Available on loan from the ECCMC. TR 621.47 KEAT 1978-1

A comprehensive seven unit instructional module with 23 transparency masters, behavioral objectives, glossary unit assignments and tests, activities and references.

Uniform Solar Energy Code. International Association of Plumbing and Mechanical Officials, 5032 Alhambra Avenue, Los Angeles, CA 90032. 1979. 73pp. Available on loan from the ECCMC. 621.47 INTE 1979-1

This Code is an ordinance providing minimum requirements and standards for the protection of the public health, safety and welfare.

U.S. Energy Policy — Which Direction? Grades 11 and 12. U.S. Department of Energy, Technical Information Office, P.O. Box 62, Oak Ridge, TN 37830. 1978. 89pp. Available on loan from the ECCMC. 531.6 UNIT 1978-2

This guide offers specific examples of what a President can do in making policy, and what was done.

The Use of Solar Energy for the Cooling of Buildings. Proceedings of the Third Workshop, February 15-17, 1978, Sheraton Palace Hotel, San Francisco, CA. Elizabeth F. Clark and Francis de Winter, Editors. Publishing Office of the American Section of the International Solar Energy Society, Inc., McDowell Hall, University of Delaware, Newark, DE 19711. 1978. 385pp. Available on loan from the ECCMC. 621.47 CLAR 1978-1
At this third U.S. Government-sponsored workshop on the use of solar energy for the cooling of buildings, more than 40 pesentations were made on different aspects of ongoing work. In preparing the proceedings, an effort was made to give a solid overview of the current state of the art. Other papers were solicited from authors who had not attended, yielding a total of 47 papers in this volume, and a large bibliography in the field was included, compiled with the assistance of the workshop participants.

Using the U.S. Weather Bureau. Doug Mahone. Total Environmental Action, Inc., Information Services, Church Hill, Harrisville, NH 03450. 1978. 5pp. Available on loan from the ECCMC. 551.63 MAHO 1978-1
This technical report discusses how to access information from the U.S. Weather Bureau which can be valuable to anyone involved with solar energy, wind power, building design, food growing, etc.

Utilizing a Natural Resource. LOF Solar Energy Systems, 1701 East Broadway, Toledo, OH 43605. 1978. Available on loan from the ECCMC. 621 47 LOF 1978-1
This binder contains general and technical information, sunpanel collector and systems, pricing, warrenties, installation, procedure marketing information and advertising promotion.

Vocational Region 10 Solar Greenhouse; a resource booklet for vocational educators. Jonathan Gorham, Project Director. Maine Audubon Society, 118 Old Route One, Falmouth, ME 04105. 1978. 38pp. Available on loan from the ECCMc. 631.34 GORH 1978-1
This curriculum booklet makes a variety of recommendations intended to help other vocational schools become involved in alternate energy projects. In addition, it presents specific design refinements of the Region #10 Solar Greenhouse which will enable other schools to build improved structures.

World Environmental Directory. Leonard A. C. Eiserer, Publisher. Business Publishers, Inc., 818 Roeder Road, (P.O. Box 1067, Blair Station), Silver Spring, MD 20910. 1977. 927pp. Available on loan from the ECCMC. R 371.4025 EISE 1977-1
This directory lists environmental companies, agencies, organizations and personnel for the United States and Canada.

Your Guide to Good Shelter; how to plan, build, or convert for energy conservtion. Carmen and Brownlee Waschek, Reston Publishing Company, Inc., A Prentice-Hall Company, Reston, VA 22090. 1978. 237pp. $12.95. Available on loan from the ECCMC. 531.6 WASC 1978-1
This book shows you how to plan a home that meets your family's needs, employs an energy-efficient design including solar energy, and incorporates security, health, and safety features.

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